Dairy Industry Building
Iowa State University
Ames
Story County
Iowa

HABS No. IA-164

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Rocky Mountain Regional Office
Department of the Interior
P. O. Box 25287
Denver, Colorado 80225

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DAIRY INDUSTRY BUILDING HABS No. IA-164

Location: Knoll Road, east side, about 700 feet south of its intersection with Osborn Drive and about 600 feet north of its intersection with Union Drive.
Iowa State University Campus
Ames, Iowa 50011

Present Owner: Iowa State Board of Regents

Present Use: University teaching and research

Statement of Significance: The building is a late example of the Classical Revival style of architecture. It is of architectural significance because it is one of a group of seven buildings in this style which surround the central campus green of this university and establish its architectural character. It is the plainest example of the seven, all of which were the work of the preeminent architectural firm in Iowa at the time, Proudfoot, Rawson and Souers. The courtyard of the building contains terra-cotta sculpture panels which are major works of the American Regionalist sculptor Christian Petersen, who was artist in residence on this campus.

PART II. HISTORICAL INFORMATION

Date of Erection: 1927-1928[1]

Architect: Proudfoot, Rawson and Souers[2]

Historical Narrative:

From 1890 to 1930 in the United States, the Classical Revival style of architecture was widely used for major public buildings, a use which had been pioneered by the New York architectural firm of McKim, Mead and White and had been popularized in the major buildings of the 1893 World's Columbian Exposition in Chicago.[3] The Des Moines architectural firm of Proudfoot, Rawson and Souers -- and their predecessor firms -- often designed in this style. In 1898 the firm, then Proudfoot and Bird, had won a design competition for a new building for the University of Iowa campus. Impressed with the firm's effective professional performance, the State Board of Education retained its services for all buildings for the three state institutions of higher learning. By 1930 this work totaled twenty-nine major buildings at the University of Iowa, twenty-nine at Iowa State College (now Iowa State University), and five at the Iowa State Teachers College (now University of Northern Iowa).[4] At Iowa State, the most prominent are the seven limestone buildings in the Classical Revival style disposed around the large landscaped expanse of Central Campus. These are listed below under the names of the firm at the time of construction, giving the original name of each building, its present name in parentheses, and the dates of construction.

Proudfoot and Bird: Engineering Hall (now Marston Hall), 1900-03; Central Building (Beardshear Hall), 1903-06, which resembles McKim, Mead, and White's Brooklyn Institute of Arts and Sciences (now the Brooklyn Museum) of 1893-1915; and Agriculture Hall (Curtiss Hall), 1906-09.

Proudfoot, Bird and Rawson: Library (Parks Library), 1923-25; and Domestic Technology Building (MacKay Hall), built 1925-26.

Proudfoot, Rawson and Souers: Memorial Union, 1927-28; and Dairy Industry Building (Dairy and Food Technology Building), 1927-28.[5]

The funding requests for the building, contained in the biennial reports of the State Board of Education, furnish important historical information. The need for a the new dairy building was first mentioned in the 1922 report. The 1924 report related the importance of a new building to the fact that the dairy industry was bringing approximately $150,000,000 a year into the state. Since the industry was complex, this report continued, college training for it required instruction in a wide variety of topics, but because enrollment in the college had increased greatly, the limited facilities in the existing dairy building, constructed in 1905, allowed instruction in only half of the topics.[6] The 1926 report repeated the needs and explained that the existing classrooms, laboratories, and creamery were inadequate and unsuitable. A request for $500,000 for a new building and equipment was made and was granted.[7]

Construction began on September 13, 1927, and the cornerstone was laid on November 29 of that year. The building was completed in the following year and dedicated on November 14, 1928.[8]

The architectural program for the building included classrooms for teaching, laboratories for research, and manufacturing laboratories for both teaching and commercial operations of a creamery that was comparable in size to commercial creameries operating at the time.[9] The 1924 Report of the Iowa State Board of Education described the main areas of college instruction for which the building was to be used "in handling market milk, butter making, cheese making, condensing milk, drying milk, testing dairy products, chemical and bacterial actions, and cold storage."[10] The names of the rooms as shown on the architectural working drawings for the building bear out these uses. These drawings also show an ice-cream laboratory not mentioned in the biennial reports.[11]

The following description of the original building is based mainly on an interview with Dr. Emerson Bird, a retired professor in dairy chemistry who worked in the building from the time it opened until his retirement from teaching in 1972. Refer to the sketch plan, which shows the building as it is now, with current room numbers. The main entrance was at the center of the west side (front) of the building, leading to the main stair hall. Proceeding to the right, there were classrooms, Rms. 106, 105, 104. A small office occupied what is now the south end of the corridor. Two more offices were next to it, Rms. 102B & 102A. The latter, at the southeast corner of the

building, was the department head's office, and the general departmental office occupied the space now taken by Rms. 102, 102D, 102E, and 102F. Rm. 102C was a store room. Rm. 100 was the retail room where people bought ice cream in cones or in bulk to take away. The room had a top-loading freezer for storing ice cream. Rm. 117 was the auditorium, with the floor sloping down to the level of the ground floor. The present Rms. 115A and 115B were one office, opening to the corridor. The space occupied by Rms. 115, 115C and 115D was the farm dairy laboratory. It contained eight or ten cream separators and was not much used. (Dr. Verner Nielsen, retired department head, commented that these were small centrifugal separators.) The advanced testing laboratory occupied the space of Rm. 112B, what is now the north end of the corridor, and a narrow strip of the end of Rm. 112, and was used for accurate milk testing for butterfat content. The testing laboratory, Rm. 112 except for the strip that was part of Rm. 112B, was used for less accurate testing of the same type. Dr. Bird remembers an office where Rm. 112A and the elevator now are. The last room was the women's rest room, Rm. 109.[12]

At the second floor, proceeding again to the right from the main stair hall, Rm. 202B was an equipment room. The balances were stored there. Rm. 202A was the office of the dairy chemist's assistant. Next to these were two laboratories for dairy chemistry research, Rms. 202 and 201. At the southwest corner of the building was the dairy chemist's private laboratory, adjoining Rm. 200, which was his office. At that time, the corridor went through to the south wall of the building. A small laboratory occupied the space now taken by Rms. 218 and 217B and was used for dairy chemistry. The office at the southeast corner, Rm. 217A, and the laboratory which occupied the space now taken by Rms. 217 and 217N were used for bacteriology. The media room, Rm. 216A, and Rms. 216 and 216B served the bacteriology laboratory and the two laboratories to their north, Rms. 215 and 214, which were microbiology laboratories. There was a cooler between these last two laboratories. (Dr. Nielsen stated that the bacteriology laboratory is relatively unchanged, still having the original desks. At the north end of the building were two small laboratories, Rms. 214C and 214B. At that time, the corridor continued to the north end of the building. The microbiologist's office was on the west side of this corridor, Rm. 211. Rm. 211A at the northwest corner of the building was his private laboratory. Along the front of the building, Rm. 210 was the assistant bacteriologist's office and Rm. 209 was a recitation room. There was an instrument room where the elevator shaft is now; a graduate student room, Rm. 206; a nitrogen laboratory, Rm. 205, containing a Kjeldahl apparatus used to determine the amount of protein; and a mold laboratory, Rm. 204. Rm. 203 was a small toilet room.[13]

The ground floor of the front portion of the building had mostly service and storage rooms. The architects' drawings showed a machinery laboratory which occupied the L-shaped space at the southwest corner of the building taken by Rms. 2B, 27C, 27D, 27E, 27B, 27A, and the south portion of Rm. 27. Dr. Bird did not recall the space being used in this way. During World War II, he taught in a chemistry laboratory that occupied the east side of this space. Dr. Neilsen stated that the ground floor originally had a gymnasium, locker room, and some unused space.[14]

The ground floor includes the two one-story wings at the rear of the building. Milk cans containing milk or farm-separated cream were delivered at the receiving platform at the center of the rear of the building. On the north side, cream was received in Rm. 38 for the butter manufacturing laboratory which occupied the space taken by Rms. 41, 43A, 43, 45, 45A 47, and the corridor leading to them. A laboratory was located where Rm. 42 now is, and refrigerator rooms where 42A and 42B are. Above these rooms was a storage area for cartons. Moving westward, the rest of the north wing was taken up with a testing laboratory, now Rms. 39, 39A, and 39B; a compressor room, now Rms. 13, 13A, 13C, and 13D; small refrigerated rooms for ice-cream storage at -20 degrees, extant in Rms. 13B, 15C, 15D, and 15B; and an ice-cream laboratory, Rm. 15. On the south side of the receiving platform, milk was deolivered to a receiving room where Rms. 7A-1 and 7A-2 now are. A market-milk laboratory occupied the space of Rms. 7 and 7B, and a condensed-milk laboratory took up the south side of the building next to it where several small rooms now are. Rm. 8a was an office, and three refrigerated rooms took up the space of Rm. 6. The rest of the south wing was taken up principally by two cheese laboratories, Rms. 4 and 3, with a number of small, refrigerated curing rooms between them in spaces now occupied by Rm. 3A.[15] In summary, according to Dr. Nielsen, these wings contained manufacturing laboratories that served both for teaching and as a commercial creamery. The butter laboratory was a two-story-high room which contained three large pasteurizing vats and three large churns. Although some condensing of milk was done initially, it was not done commercially. The commercial operations conducted in the two wings created a convenient source of funds for the department. Everything produced was sold, and students learned by working in these laboratories.[16]

In the courtyard the terra-cotta reliefs by Christian Petersen were completed in May 1935. Neilsen recalled that the courtyard was then planted only in grass. A planting plan, developed by Professor Hanson of the Landscape Architecture Department and executed in 1937, consisted of "a large central gravel walk and several paths surrounded by clipped hedges" under the shade of four elm trees. The raised terrace was planted with tall cedars and vines and was to have four tables shaded by umbrellas "to furnish a restful spot where customers may enjoy dairy products."[17] People would purchase ice-cream in the retail room on the first floor and take it to the terrace to eat it at tables and chairs sheltered by picnic umbrellas.[18]

The Dairy Industry Program at Iowa State:

Iowa State Agricultural College and Model Farm was founded in 1858 and offered its first classes in 1869. In 1880 the first course in dairying was offered.[19] A building was constructed in 1892 and 1893 to provide space for dairying, including cheese manufacture. Here the college operated a commercial creamery, an outgrowth of the practice of caring for the milk produced by the college herd for campus use. In 1897 the Dairy Department was established in the Division of Agriculture to offer a four-year undergraduate program.[20] In 1898 this building was enlarged.[21]

The late nineteenth century saw commercial dairying become an important farm specialization as the development of railroads facilitated the transportation of milk. In the early twentieth century, dairying became "the leading commercial farm enterprise" in the country, and one of the most profitable ones.[22] Dairying was important in Iowa at this time. When the 8oard of Trustees of Iowa State College asked the legislature in 1903 for the funds for the Dairy Building, they stated that Iowa annually manufactured nearly a fifth of all creamery butter marketed in the United States.[23]. The funds were granted, and in 1905 the four-story brick Dairy 8uilding (now called East Hall) was completed. In approximately 29,080 square feet of floor space it provided a butter laboratory, and Ice-cream laboratory, a bacteria and a chemical laboratory, and a market milk department, and was equipped with cold-storage rooms and a mechanical refrigeration system.[24] In 1907 a college extension program in dairy manufacturing was initiated. Under Martin Mortensen, head of the department fro 1916 to 1938, an analysis laboratory was started to provide bacteriological analyses, and later chemical analyses, for industry.[25]

According to Dr. Nielsen, who was head of the Diary and Food Industry Department from 1958 to 1974:

> The development of vocational and academic programs in dairy technology at Iowa State paralleled those in most other Land-Grant colleges and universities. They were designed to offer professional education for the leaders and operators in the young and rapidly growing dairy industry in the United States as well as to develop its educators and research workers.[26]

As the dairy industry educational program during the middle 1920s continued to grow, the facilities in the 1905 building became inadequate. Construction of the present Diary Industry Building was undertaken in 1927 and completed In 1928. At that time there were many dairy farms in the state, but the keeping of dairy cows was not limited to dairy farms, because the sale of milk and cream provided farm families with an important added source of income.[27] The emphasis of the educational program was on preparing students for careers in farm dairying and commercial creameries. A 1934 report on the graduates of the department, which numbered 355 since its founding, states that of the 348 graduates still living, 324 were in dairying or in related work. Of these, 33 were heads of dairy manufacturing departments, 10 were professors and instructors in colleges, 10 were teachers in high schools and county agents, 28 were specialists in education and commercial work, 59 were owners of commercial dairy plants, and 61 were in other jobs.[28]

However, by mid twentieth century, the dairy industry had changed considerably. From 1932 to 1940 Iowa butter production decreased by 60%, and cheese production increased 130-fold, tending to balance the drop in milk and butter consumption for Iowa dairy farmers.[29]. Then from 1940 to 1984 the number of dairy farms in the state decreased from 192,000 to about 9000, although herd sizes increased, the state's milk production dropped to half,

and butter production dropped to a tenth. For example, as late as I960 the average number of butter plants per county was two, but in I985 there were only four in the entire state. There was a drastic decrease as well in the number of milk processing plants. On the other hand, cheese production again increased -- 37.4 fold.[30]

Dr. Earl Hammond, present head of the Food Technology Oepartment, observed that this drastic reduction in butter production in Iowa was associated with technological changes in the dairy industry as extreme as those which we more usually witness in third-world countries. He identified the factors associated with this change as including the availability of good cheap margarine, the development of soybean products which replaced milk as rations for animals, the improvment of trucks and roads, the more recent dietary concerns to limit cholesterol and fatty acids, and the recent awareness of water pollution problems which has increased the cost of creamery waste disposal. These changes were reflected in the Oairy Industry Oepartment. During Dr. Nielsen's tenure as department head from 1958 to I974 the department's dairy processing plant continued to shrink, in spite of his efforts to maintain it, and faculty working in dairy processesing were not replaced when they retired. When Nielsen himself retired, the plant was closed.[3I] On the other hand, the growth in cheese production led to emphasis on dairy microbiology from which came the department's contributlon to the technology of cheese manufacturing.[32]

In 1937 research in the Oairy Industry Department had been under way for several years on special cheeses that would sell for prices high enough so that farmers could be paid more for their milk than they could obtain by selling the cream for butter and feeding the skim milk to their livestock.[33] Iowa Blue Cheese is probably best known, a variety which compares favorably with the expensive French Roquefort.[34] Edam and Iowa 5wiss were others of this type made during the 1930s.[35] In addition a new sweet-curd cottage cheese was developed which many people preferred to the former sour-curd type, a cream cheese like Philadelphia cream cheese, and Longhorn. The department manufactured these cheeses " . . . to enable the instruction and experimental work to go forward on a modified commercial basis."[36] In the three weeks before Christmas of I938, the department sold more than a thousand pounds of Iowa Blue Cheese. The college held the patent for its manufacture, an indication of its popularity.[37] In I975 Iowa State University went out of the cheese business, having made more than $200,DOD in royalties on this patent.[38]

Dr. Nielsen observed in I980 that the research conducted at Iowa State in the manufacture and modification of foreign varieties of cheese had made substantial contributions to the development of the cheese industry in the United States in the areas of product quality -- especially flavor -- and total output, which had increased six-fold since I935.[39] Another authority noted that in the mid 1970s the United 5tates was makeing more cheese than any other country and was making almost every variety in the world.[40]

Three people important in the dairy industry program at Iowa 5tate were Bernard W. Hammer, Emerson W. Bird, and Verner Nielsen. Hammer (I886-1966)

was probably the most famous, according to Earl Hammond, and did pioneering work in the microbiology of dairy products which established a reputation for Iowa State.[41] Hammer joined dairy bacteriology at Iowa State in 1911 and was made chief of Dairy Bacteriology and the Agricultural Experiment Station and professor of dairy bacteriology in 1916. In 1920 he received a Ph. D. degree from the University of Chicago. His work, which dealt with the biological and chemical processes significant in butter production, had considerable practical importance. In 1937 his professional publications numbered over a hundred, many of them jointly authored. He was a contributor to Bergey's manual of determinative bacteriology and wrote a successful text on dairy bacteriology.[42]. In 1943 he left Iowa State for a position in industry in San Francisco.[43] His private laboratory was at the northwest corner of the second floor, now Rm. 211A, and his office was just east of it, Rm. 211, entered from the corridor. The two small laboratories in a similar position on the east side of the corridor were used by his assistants, now Rms. 214C and 214B. The two large adjoining laboratories at the north end of the building along the east side were his microbiology research laboratories, now Rms. 214 and 215. He lectured in the second-floor classroom on the west side of the building at the north end, now Rm. 209.[44]

Emerson Bird (1901-) was a dairy chemist. He joined the faculty in 1928, the same year the building was completed, and received his Ph. D. from Iowa State the following year. His B. S. was from Pennsylvania State.[45] His work from 1931 to 1943, published in bulletins of the Iowa Agricultural Experiment Research Station, dealt with butter and cream production. In 1952 he received the Borden award for dairy research, based on research reported in public documents and scientific journals, and in 1964 he was awarded an Iowa State University Faculty Citation. He retired from teaching in 1972, and in 1976 the Iowa Section of the Institute of Food Technologists presented him the first annual Outstanding Service Award.[46] His office was at the south end of the second-floor corridor on the west, now Rm. 200, and his private laboratory was at the west of that, now Rm. 200B, placing it at the southwest corner of the building. The two large laboratories on the west side, just north of his office and laboratory, were his dairy chemistry research laboratories, now Rms. 201 and 210. The office next to the northern of these was for his assistant, now Rm. 202A, and the equipment room next to that on the east was used for storage of balances and other equipment, now Rm. 202B. The small laboratory, now Rm. 218, across the corridor from Dr. Bird's office was also used for dairy chemistry research. He lectured in the same second-floor classroom that Hammer used, now Rm. 209.[47]

Verner Nielsen was brought to Iowa State from Denmark in 1932 as an experienced cheese-factory technician, and during the following ten years played an important role in the development of Iowa Blue, Iowa Swiss, and Edam cheeses.[48] During this time he obtained his B. S. at Iowa State and in 1944 was appointed as an instructor, going on to obtain a Ph. D. in 1953. He served as head of the department from 1958 to 1974 and as president of the American Dairy Science Association during 1970, was a Fellow of the American Association for the Advancement of Science, and received a Faculty Citation.[49] Nielsen identified his present area of specialization as food chemistry,

acknowledging that he did some dairy work.[50] As department head, Nielsen occupied the office at the south end of the first floor corridor, on the east side, now Rm. 102A.[51]

In the late 1940s, research and graduate education were initiated in food technology, and around 1950 a food technology program was started in the Dairy Industry Department, the name of which was then changed to the Department of Dairy and Food Technology.[52] During 1960 to 1962 a Food Preservation and Sanitation Laboratory (now called the Food Technology Laboratory) was constructed as an addition at the east end of the north wing of the original building.[53]

The Career of Christian Petersen:

The New York Armory Show in 1913 was the first comprehensive exhibition in this country of European and American modern art. The show left American artists divided into two groups. One group found the new work an inspiration and a turning point which led them to abstraction, non-representational art, a new use of color, and a new understanding of form. We now think of the work of these artists as the mainstream of twentieth-century art. For the other group, the new art seemed foreign and decadent. Among this group were the Regionalists, who prized continuity with American traditions and with representational art. Thomas Hart Benton, Grant Wood, John Stewart Curry, and Doris Lee were important artists of this school.[54] Christian Petersen was also a Regionalist. Among his papers is a statement of his belief that the role of the artist was to record "the experiences of outstanding importance in the development of the land" and "to capture in some permanent form the beauty one may see in the things which form part of everyday life." He felt that some of the artists who had studied in East Coast schools and abroad had become "mere imitators" and that they did not use what they had learned "to express the experiences and ideals of their own folks."[55]

In the same year as the Armory Show, Petersen had executed what his biographer Patricia Lounsbury Bliss considers was probably his first commissioned sculpture in the round, a Spanish American War Monument in Newport, Rhode Island. The monument was a traditional allegorical Liberty figure with torch and sword.[56] He was twenty-eight years old that year and had been working for five years as a free-lance die cutter in Attleboro, Massachusetts. His education before taking the job as a die cutter had included trade school training, followed by night courses at the Fawcett School of Design in Newark, New Jersey, some additional study at Rhode Island School of Design and at the Art Student's League and the Beaux Arts Institute of Architecture and Design in New York, and a short apprenticeship to Henry Hudson Kitson, an English-born sculptor. Petersen too was of European birth. In 1894 his parents brought him to the United States, leaving their farm in Denmark and, after a short time in Illinois, settling on a New Jersey farm, where the boy grew up.[57]

In 1928 Petersen decided to give up die cutting, which had been his principal source of income for twenty years, and devote his full efforts to sculpture.

He had been cutting dies for gold medallions, collectors' silver spoons, and commemorative portrait medals, and this work had provided a dependable income to support his wife and family. In addition, he had executed a number of sculpture commissions, often for commemoratlve sculpture having to do with World War I. The career change led to divorce and a move to Chicago, where he hoped to create an American art in the mldwest, away from the European influenced east-coast art world. However, the onset of the Great Depression in 1929 meant a temporary end to sculptural commissions, and a return to dle cutting to earn a living.[58]

Petersen remarried and wlth some small savings was able by 1932 to establish his own sculpture studlo in rural Illinois. His commissions included several in Des Moines which Involved temporary residence there during the summers of 1932 and 1933. One of them was for Iowa State College president Raymond M. Hughes.[59]

Late in 1933 Hughes decided that he wanted Petersen to create the murals for the Diary Industry Building courtyard at his college and devised a way of funding the work. He convinced Grant Wood, a well-known Reglonalist artlst, to bring Petersen into his Iowa Clty federal art workshop early in 1934, where the sculptor worked on the prelimlnary sketches for this sculpture. In addition, Hughes obtained National Youth Assistance funds to pay for student assistants to work on the sculpture. In August, the Petersens moved to Ames, where Christian was given a position wlth the university whlch soon became artist in residence. Thus Petersen's initial work on the Dalry Industry sculptures, the designing that he did in Iowa City, was funded under the Federal Public Works of Art Project, which operated from December 1933 to June 1934. The program was established to help unemployed artists durlng the first portion of Franklin D. Roosevelt's presidency.[60] Once at Iowa State, however, Petersen's salary came from college funds.

There his first responsibility was the Dairy Industry courtyard sculptures. Starting In September 1934, he worked closely with Professor Paul E. Cox, head of the Ceramic Engineering Department, and a number of student assistants in making the terra cotta panels of this work and in flring them. The panels had been designed for firing in a Chicago commercial kiln, large enough to accept them in one piece. Funds were not available for commercial firlng, so equipment at the college, which would not accept work of this size, had to be used, and Petersen had to subdivide the panels. The hlgh relief of the center panel posed special problems. The work was completed in time for the college "Veishea" celebration in May 1935.[61]

Petersen was artist in residence at Iowa State for twenty-seven years, untll his death in 1961, teaching sculpture to hundreds of students on a campus where officially there was no fine-arts department. Workling both in bas relief and in the round, he created more than three hundred known works of realistic sculpture ranging in subject matter from portraits to religious themes.[62] This is art which tells a story through the subject matter represented, a story often about the wholesomeness of life in the mlddle west. Most of his campus sculpture is of this sort -- students conversing,

studying, or engaged in sports. But some of it, such as the Dairy Industry courtyard sculpture, is instructive, telling the story of dairying as an industry in the United States. Similar is his sculpture for the Veterinary Medicine quadrangle and his fountain figures at the student union, the latter reminding us of the American Indians who lived in our land before us and grew corn on it too. His religious sculpture is inspirational. Only a small part of his sculpture shows us a different side of life, dealing with the disaster of war. In addition to the illustrations in Bliss's biography, photographs of Petersen's work are found in Geraldine L. Wilson's book and in the pamphlet "An Illustrated Guide to the Iowa Works of Christian Petersen."[63]

PART II. ARCHITECTURAL INFORMATION

A. General information

1. Architectural Merit and Interest: The building originally served for academic instruction in dairy industry and as a commercial teaching creamery. The front, two-story portion included laboratories, classrooms, and office spaces for academic instruction. The two one-story wings at the rear served as the commercial teaching creamery. The architectural design of the front portion followed the architectural style of the other early twentieth century limestone academic buildings around the central campus, although it was the simplest of them; that of the rear wings was a plain almost industrial design fitting for their utilitarian purposes.

2. Condition of Fabric: In general, the fabric is in very good condition.

3. Summary Description: The building is built around a central rectangular courtyard. The front (west) portion of the building, which is a two-story block with a basement, closes in the front of the courtyard; a one-story gallery closes in the rear, behind which is a receiving platform; and the remaining two sides of the courtyard are enclosed by one-story wings whose floor level lies at the same level as the basement of the front portion of the building.

4. Sketch Plans: These are included at the end of this recordation. The elevations were traced from photographic reproductions of the Proudfoot, Rawson and Souers 1927 drawings and were revised to show the building as it is now. The floor plans of the building, which also show it as it is now, were furnished by Bussard/Dikis Associates, architects for the Utilization Center for Agricultural Products the construction of which involves an addition to the eastern and northern portions of the building. The list of existing room names was furnished by the Facilities Planning Office, Iowa State University. The rest of the drawings show the proposed new construction and were also furnished by Bussard/Dikis Associates.

B. Detailed Description of Exterior:

1. Foundation: At the front and sides of the main portion, the foundation wall is limestone, like the wall above, is limestone. The ground-level stone

course, about four inches high, is of light-gray granite. There are plastered-brick window wells at the front. They have a coping of the same granite and have heavy steel grating over the well opening. The building foundation wall below the granite, visible only in a few places, is smoothly plastered red brick. At the back of the main portion, at the wings, and at the gallery, the foundation, like the wall above it, is buff brickwork.

2. Wall Construction: At the front and sides of the main portion, the walls are grayish buff limestone and are designed as two-story-high piers resting on a basement and supporting an entablature. In the frieze of this entablature, over each corner pier, is a cow's head relief. Above the other piers there is a simple raised disk in the frieze. The design and materials of the side walls of the main portion are similar, but they lack the cows' heads.

At the back of the front portion, the walls are buff brick laid in running bond with every sixth course a header course. The bricks in the header course alternate between headers and stretchers. The mortar is gray and finished in a tooled joint. The top of the wall has the same entablature as the stone walls, but the frieze and the blocking course are the buff brick of the wall below. A limestone coping caps the blocking course.

The remaining walls of the wings and gallery are of the same bricks and brickwork and are topped with a plain limestone parapet.

3. Structural Systems: The architects' working drawings show the exterior walls to be brick bearing walls with a limestone facing. The floor and roof slabs are of reinforced concrete, supported on concrete columns or the exterior walls. At the eastern ends of the wings, the columns are steel encased in concrete.

4. Porches, Stoops, Courtyard, Etc. At the front, there is a recessed central entrance portico. Its steps and floor are limestone, with the exception of the bottom step in granite matching the granite at the foundations. There are two limestone benches on the portico. The two columns are Roman Ionic between pilasters supporting the ends of the porch entablature. Bas reliefs of cows, matching those figures in the frieze at the corners of the building, decorate the frieze above the pilasters. A stone balustrade caps the portico entablature.

At the left side of the main portion is a recent reinforced-concrete ramp providing access to the main floor; at the right side is a recent reinforced-concrete access stairway. Both have steel railings painted dark brown.

At the rear of the building is a concrete receiving platform about four feet above grade. Its roof is a steel-framed structure with a concrete deck. A copper fascia finishes the exposed edge of this roof. The outer supports for the roof are steel pipe columns; the inner ones are brick pillars. The dock adjoins the gallery whose arched openings adjoin the courtyard. The lower portion of these arches is closed in with a low wall, the courtyard side of which contains the Christian Petersen relief panels.

The rectangular central courtyard has a raised terrace adjacent to the main portion of the building. The terrace paving is rectangular limestone blocks laid on the earth in an irregular pattern, but the paving has settled and is no longer level. Brick steps lead down to the courtyard level. A stone balustrade finishes the rest of the open side of the terrace. On the opposite side of the courtyard from the terrace is a rectangular pool, back of which is the central arch of the nine arches of the gallery. Seven of them contain the relief-sculpture panels. The central panel contains a group of cattle which break out of relief into sculpture-in-the round and appear to be drinking water from the fountain that flows into the pool. The left-hand three panels depict early American milk and butter production; and the right-hand three, 1934 dairy industry at Iowa State. The panels are of buff terra cotta, as are the coping of the pool and the flat base of each sculpture panel. The top unit comprises a cap for the brick wall of which it forms one side. The courtyard walks are paved in pea gravel between steel headers. The planting includes low juniper bushes, locust trees, and lawn.

5. Openings, Doorways, and Windows: The door and window frames are wood. The main entrance door is wood with a large single glass light in each leaf. In general, the rest of the exterior doors are wood also. The windows are double-hung wooden sash, 1/1, with single-thickness glass. Those facing the courtyard terrace have clear diamond-pattern wireglass, as do the lights of the doors opening onto the terrace. First-and second-floor windows at the main portion have insect screens over the lower light. Many of the windows at the wings and at the basement are fully screened. Exterior wood is painted dark brown. Arched openings and arched windows in brick walls have two courses of rowlock brick forming the arch. Rectangular openings in these walls have steel lintels supporting the brickwork and stone window sills. A few at the terrace have decorative stone lintels. At the back wall of the main portion, several large first-floor windows have been bricked in with brick not quite matching that of the surrounding wall.

Alterations in the back of the south have brought about changes of two large windows to glass-block, and a window and a door to an anodized aluminum window with fixed glazing. Some rooms have window-mounted airconditioning units.

6. Roof - Shape and Covering: The roofs are flat. The roofing was not inspected.

C. Detailed Description of Interior

1. Floor Plans: The front portion has a double-loaded corridor running the length of the building. The two-story-high front lobby is at the center of a long side. The two wings have a single-loaded-corridor plan, the corridor placed along the inner courtyard.

2. Stairways: The principal stairway, located in the main lobby, is double with a flight at each side. The stair treads are of conglomerate stone

matching the lobby floor, and the risers are buff brick, matching the lobby walls. The balustrade is steel with a wooden handrail attached. The stairways in the corridors leading from the first floor to the basement are of terrazzo. The recently-added exit stairways are of steel construction with terrazzo treads and steel handrails.

3. Flooring: The lobby floor is conglomerate stone. Corridor floors are terrazzo with coved terrazzo bases at the walls. In the laboratories the floors are concrete, and in classrooms they are of modern resilient flooring.

4. Wall and Ceiling Finishes: The lobby walls are of the same bricks -- their natural surface exposed -- in the same bond as used on the exterior of the building, and at the arched openings a brick soldier course forms the voussoirs, but the bricks are not tapered. The lobby ceiling has a central groin vault with slightly lower barrel vaults flanking it, all cream-colored plaster. In the corridors, the same brickwork is used for walls, and ceilings are covered with cream-colored acoustical tile. In laboratories and classrooms, walls are painted brickwork or plaster, and ceilings are plaster.

5. Doorways, Doors, and Windows: Most of the doorways have steel frames shaped like a simple wood frame with a backband. A small number have modern, flush steel frames. All metal frames are painted dark brown. Every readily visible interior door is a new, flush, oak door with a clear finish. Many interior doors are glazed with a tall, narrow pane of diamond-pattern wire glass. There are some interior windows between the corridor and the laboratories in the wings. These are glazed like the interior doors and have shaped metal frames matching the door frames.

6. Interior Trim: Windows have white marble sills. The outer wall of the lobby has several wide bands of buff limestone flush in the wall at either side of the entrance door, and the door trim and other decorative trim in the lobby is buff limestone. High in each side wall of the lobby is a large arched recess high in the wall filled with a plaster relief painted buttery yellow. The reliefs are Petersen's designs, depicting the history of butter and cheese production, the one on the north wall dealing with Biblical times and that on the south wall with early American times.

7. Hardware: The door hardware is red brass, all of recent manufacture, except that the pair of wooden, glass-light doors leading to the terrace have brass thumb-latch hardware, probably original.

8. Mechanical and Electrical Equipment: There are a number of window air conditioners. The original exposed iron radiators still heat the building. The corridors have recent nearly-flush fluorscent lighting. The laboratories have old suspended fluorescent fixtures with large metal egg-crates. The building originally had a refrigeration compressor room in the north wing with coolant piped to several locations in the building. There is a recently installed elevator in the front portion of the building.

D. Site and Surroundings:

1. Orientation and General Setting:
The front of the building faces west on Knoll Road. The building lies to the east of the central campus of the university, facing Knoll Road. Across the road from the north end of the building is Farm House, the first building on campus, built in the early 1860s and remodeled in around 1910. Across the road from the south end of the building is multistoried Ross Hall and to the south East Hall Addition, also a multistory building. The building is visible from the central campus through the space between Ross Hall and Farm House. Across a landscaped area to the north is the former Landscape Architecture Building, a substantial horse barn dating from 1900 and remodeled in 1930. At the back of the building lies Union Drive, running diagonally from southwest to northeast, with a parking lot on the far side of it. The receiving platform is reached from Union Drive. The later Food Technology Building was joined at the back of the north wing.

PART III. SOURCES OF PROJECT INFORMATION

The architectural firm of Bussard/Dikis Associates, Des Moines, have prepared plans for the Utilization Center for Agricultural Products, which will constitute an addition to the eastern and northern portions of the Dairy Industry Building and involve certain changes in these portions of the structure. Work is to begin in the fall of 1989. This historical documentation of the Dairy Industry Building was prepared by Wesley I. Shank, Consultant on Historic Architecture, Ames, Iowa, and was completed in June 1989. It is one portion of the historical/architectural recordation of the building prepared for Bussard/Dikis Associates that also included photodocumentation and documentation of existing original drawings. The recordation conforms to the standards of the Historic American Buildings Survey, U. S. Department of the Interior.

End Notes:

1. H. Summerfield Day, The Iowa State University Campus and Its Buildings (Ames: Iowa State University, 1980), p. 217.

2. Ibid.

3. Henry-Russell Hitchcock, Architecture: Nineteenth and Twentieth Centuries, 2nd ed. (Baltimore: Penguin Books, 1963), p. 398.

4. Barbara Beving Long, Iowa's Pre-Eminent Architectural Firm: The Architectural Legacy of Proudfoot & Bird et al. in Iowa (Des Moines: Iowa Office of Historic Preservation, 1987), pp. 1, 2.

5. Day, pp. 171, 215, 217, 314, 319, 339, 349.

6. Iowa State Board of Education, Report (1922), p. 23; Iowa State Board of Education, Report (1924), pp. v, xviv.

7. Iowa State Board of Education, Report (1926), pp. 6, B, 19; Day, p. 217.

B. Day, pp. 217, 21B.

9. Telephone interview with Werner Nielsen, Ames, Iowa, 25 Nov. 19B8.

10. Iowa State Board of Education, Report (1924), p. xviv.

11. Proudfoot, Bird & Souers, Architects, "Dairy Building" (Des Moines, 1927), sheets 2, 3, 4.

12. Interview with Emerson W. Bird, Ames, Iowa, 25 May 19B9; Nielsen, telephone interview.

13. Bird, interview; Nielsen, telephone interview.

14. Bird, interview; Nielsen, telephone interview.

15. Bird, interview.

16. Nielsen, telephone interview.

17. Day, p. 21B; Nielsen, telephone interview.

18. Bird, interview.

19. G. Mutten, "Dairy Department Sees Steady Growth," The Alumnus, Iowa State College 23 (May 192B): 242.

20. Mutten, p. 242; Verner Nielsen, "A Statement about the Department of Dairy and Food Technology," Iowa Experiment Station News, Mar.-Apr. 196B, p. 1. Mutten gives 1B9B-1B99 for the date of establishment and Nielsen gives 1897.

21. Day, p. 214; Mutten, p. 241.

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23. Day, p. 224.

24. Oren Bolin, "From a Cottage to a $500,000 Plant," Iowa Agriculturalist 34 (Feb. 1934), p. 96; Day, pp. 224-226; Mutten, p. 242).

25. Nielsen, "Department of Dairy and Food Technology," p. 1; Nielsen, telephone interview.

26. Nielsen, "Department of Dairy and Food Technology," p. 1.

27. "Dairy Association Honors Verner Nielsen," Ames Daily Tribune, 9 Dec. 1977, p.2.

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29. "Dairy Association Honors Verner Nielsen."

30. Earl G. Hammond, "Opportunities for Dairying and Dairy Research in Iowa Today," paper presented to the Iowa Dairy Products Association, 13 Dec. 1985, pp. 1, 2.

31. Ibid, pp. 1, 2, 3, 7.

32. "Cheese Wizard Says I. S. U. Makes It Right," Iowa Stater, Nov. 1980.

33. Ole Lande, "Dairy Science," Iowa Agriculturalist 38 (June 1937): 9.

34. Lee Bagbe, "Iowa Blue Cheese -- America's Roquefort," Iowa Agriculturalist 38 (Feb. 1937): 135.

35. Donald E. Anderson, "Dairy Modernization," Iowa Agriculturalist 40 (Apr. 1939): 12; "Iowa Swiss Cheese Results Announced," Iowa Agriculturalist 39 (Feb. 1938): 24.

36. Roy Olson, "Public Palate Hails Sweet Curd Cottage Cheese," Iowa Agriculturalist 35 (Feb. 1934): 88; Glen Liston, "Variety Is Keynote in Cheese Research," Iowa Agriculturalist 35: (Feb. 1934): 88-89.

37. "Iowa's Blue Cheese," Iowa Agriculturalist 40: (Feb. 1939): 16.

38. "I. S. U. Will Go Out of Cheese Business," Los Angeles Times, Oct. 1975.

39. Nielsen, "Department of Dairy and Food Technology," p. 5; "Cheese Wizard."

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42. B. W. Hammer Panegyric By His Former Students (Ames: Iowa Collegiate Press Inc., 1937) pp. 1, 2, 6, 4-14.

43. "B. W. Hammer, "Iowa State College Information Service Release, 20 Oct. 1943.

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45. Telephone interview with Emerson W. Bird, Ames, Iowa, 22 May 1989; Bird, interview; "I. F. T. Honors Retired Prof," Iowa State Daily, 1 Dec. 1976.

46. Alumni Association, Oct. 1952; "I. F. T. Honors Retired Prof."

47. Bird interview.

48. Bird, telephone interview; "Cheese Wizard."

49. "Verner Nielsen," Faculty Newsletter, 20 June 1980.

50. Nielsen, telephone interview.

51. Bird, interview.

52. Nielsen, "Department of Dairy and Food Technology," p. 1.

53. Day, p. 258.

54. Milton W Brown, "American Painting From the Armormy Show to the Depression," in American Art: Readings from the Colonial Era to the Present, ed. Harold Spencer (New York: Charles Scribner's Sons, 1980), pp. 239, 240, 245; Helen Gardner, Art Through the Ages, 3rd ed. (New York: Harcourt, Brace and Co., 1948), pp. 248, 249.

55. Patricia Lounsbury Bliss, Christian Petersen Remembered (Ames: Iowa State University Press, 1986), pp. 12, 13, 181, 182.

56. Ibid., p. 8.

57. Ibid., pp. 3, 4, 5, 11, 12, 15.

58. Ibid., pp. 11-13, 15, 16.

59. Ibid., pp. 17, 20, 24.

60. Ibid., pp. 26, 27, 30, 32, 35, 190; Federal Writers' Project of the Works Progress Administration for the State of Iowa, Iowa: A Guide to the Hawkeye State (Iowa City: State Historical Society of Iowa, 1938; reprint ed., The WPA Guide to Iowa, Ames: Iowa State University Press, 1986), p.147; Francis V. O'Connor, "The New Deal Art Projects in New York," in American Art: Readings from the Colonial Era to the Present, ed. Harold Spencer (New York: Charles Scribner's Sons, 1980), p. 253.

61. Bliss, pp. 30-37, 50.

62. Bliss, pp. xi, 30.

63. Geraldine L. Wilson, Christian Petersen, Sculptor (Ames: Iowa State University Press, 1962).

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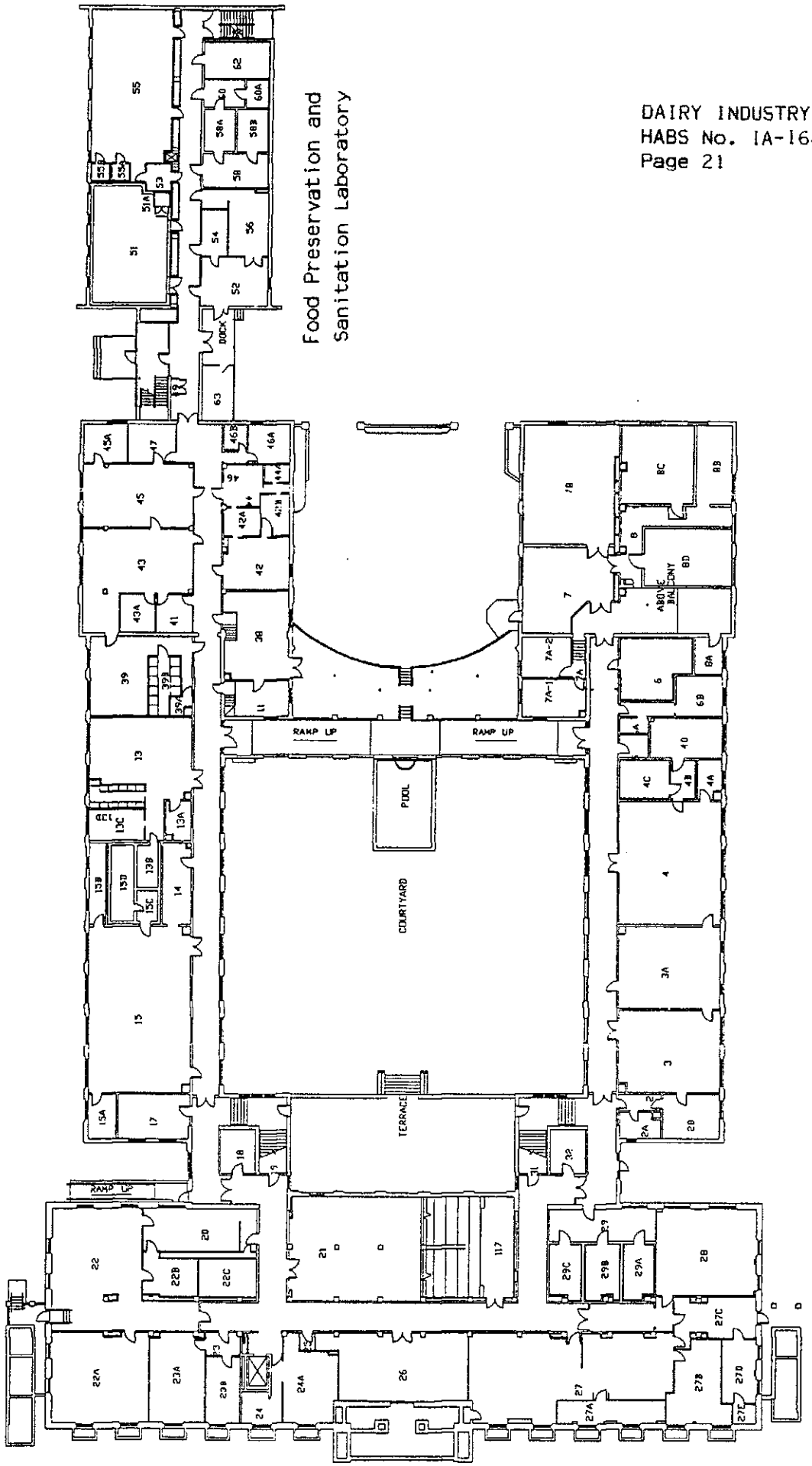

GROUND FLOOR PLAN

DAIRY INDUSTRY BUILDING
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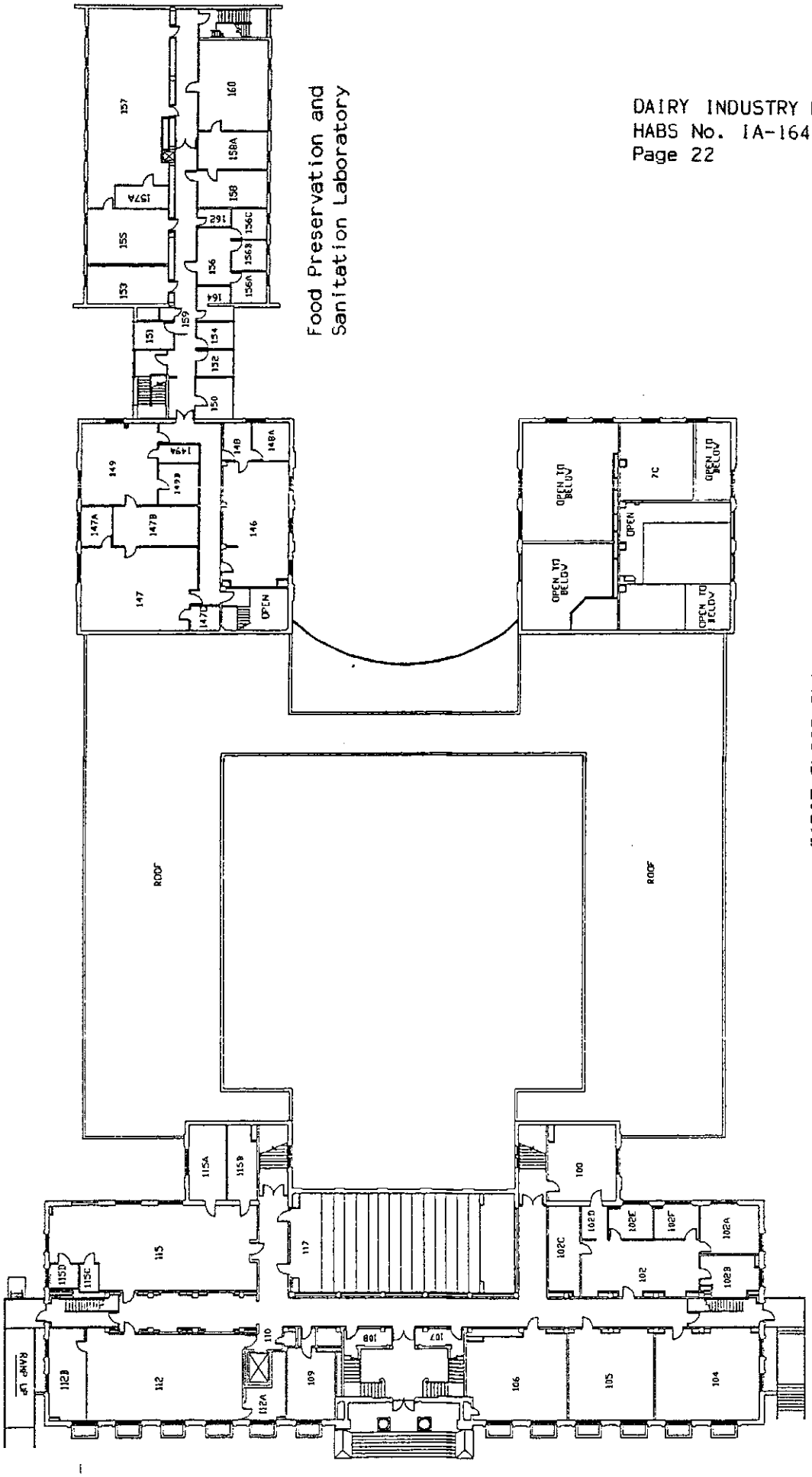
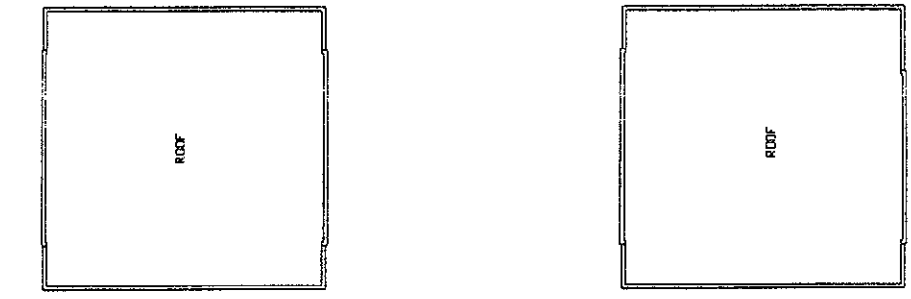
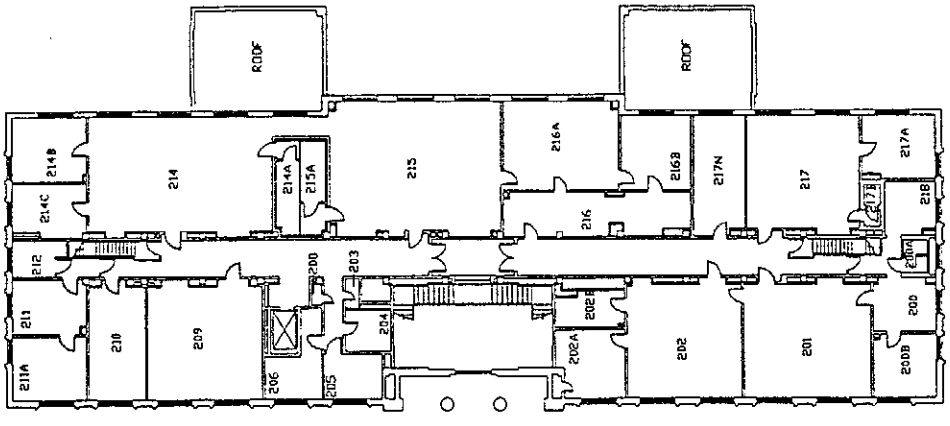




SECOND FLOOR PLAN



GROUND, FIRST, AND SECOND FLOOR ROOM NUMBERS AND NAMES

Ground Floor

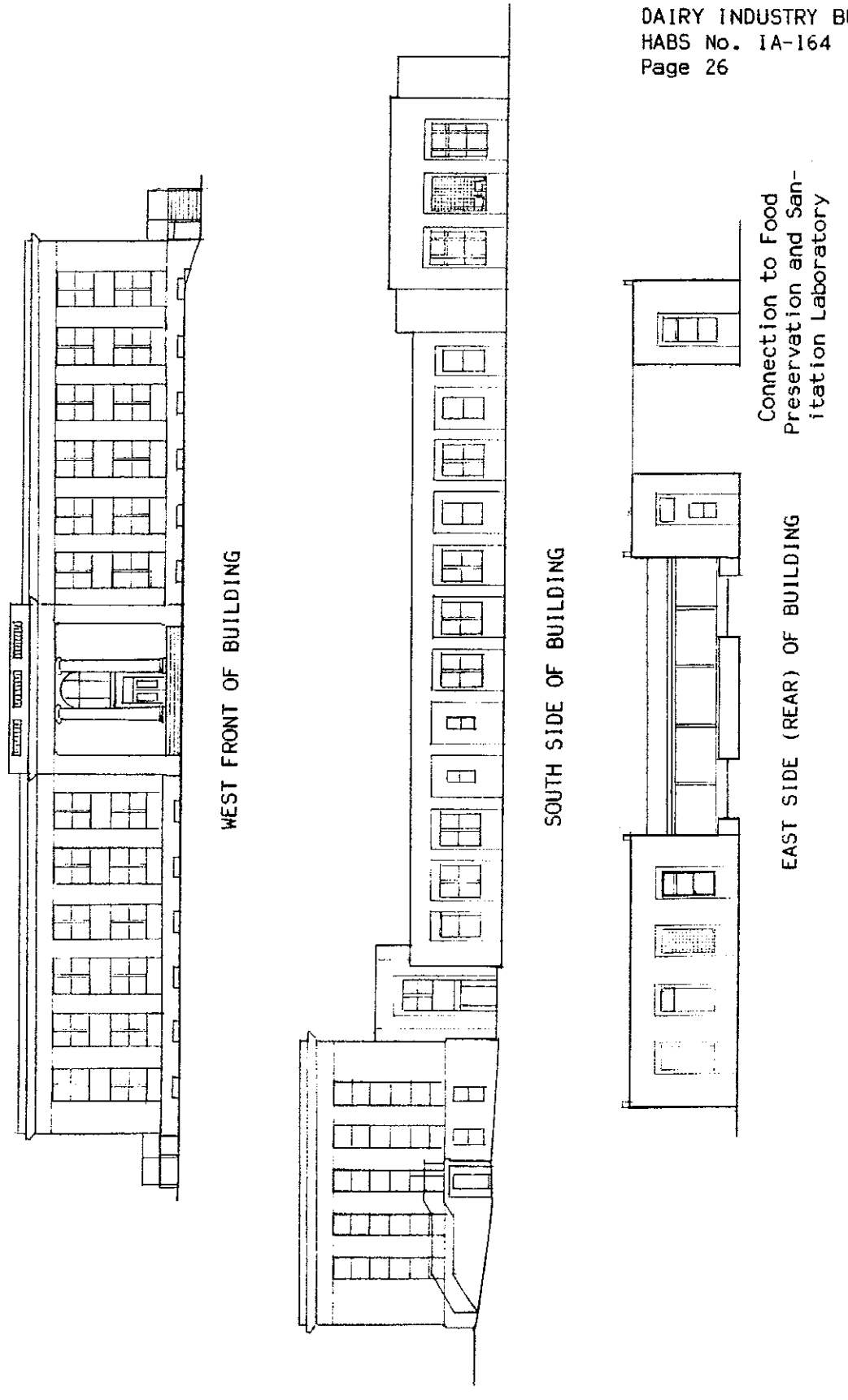
2 Rest Room
2A Rest Room
2B Teaching Laboratory Service
3 Teaching Laboratory
3A Teaching Laboratory
4 Research Laboratory
4A Academic Office
4B Research Laboratory Service
4C Research Laboratory Service
4D Research Laboratory Service
5 Office Service
6 Research Laboratory Service
6A Research Laboratory Service
6B Research Laboratory Service
7 Inactive Area
7A-1 Academic Office
7A-2 Graduate Assistant Office
7-B Inactive Area
8 Inactive Area
8A Inactive Area
8B Inactive Area
8C Inactive Area
11 Academic Office
13 Teaching Research Laboratory
13A Teaching Laboratory Service
13B Teaching Laboratory Service
13C Teaching Laboratory Service
13D Teaching Laboratory
14 Inactive
15 Teaching Laboratory
15A Teaching Laboratory Service
15B Teaching Laboratory Service
15C Teaching Laboratory Service
15O Inactive
17 Graduate Assistant Office
18 Inactive
19 Machine Room
20 Rest Room
20C Machine Room
21 Storage
22 Storage
22A Storage
22B Inactive
22C Inactive
23 Clerical Office
23A Conference
23B Clerical Office
24 Machine Room
24A Machine Room
2S Janitor Room
26 Machine Room
27 Graduate Assistant Office
27A Inactive
27B Graduate Assistant Office
27C Inactive
27D Clerical Office
27E Office Service
28 Office Service and Clerical Office
29 Teaching Laboratory Service
29A Teaching Laboratory Service
29B Teaching Laboratory Service
29C Teaching Laboratory Service
31 Janitor Room
32 Inactive
38 Janitor Room
39 Research Laboratory
39A Research laboratory Service
39B Research Laboratory
41 Academic Office
42 Research Laboratory
42A Research Laboratory Service
42B Research Laboratory Service
43 Research Laboratory
43A Research Laboratory Service
44 Research Laboratory Service
44A Research Laboratory Service
4S Research Laboratory Service
4SA Research Laboratory Service
46 Rest Room
46A Rest Room
47 Graduate Assistant Office

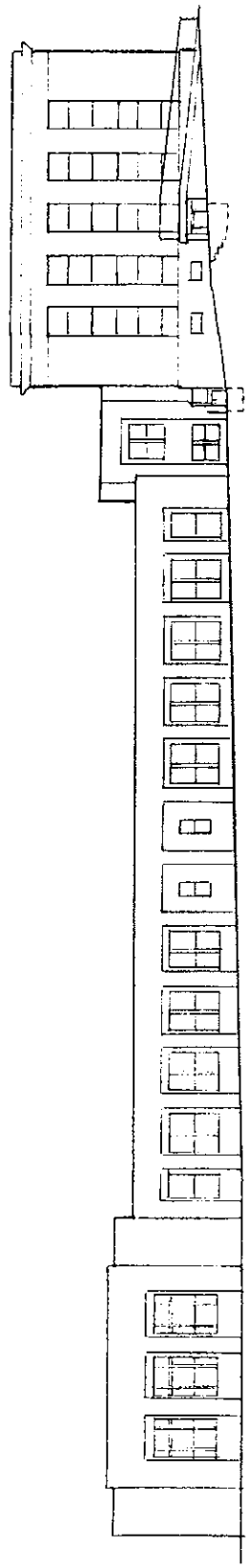
First Floor

100 Reading/Study Room
102 Clerical Office
102A Academic Office
102B Academic Office
102C Office Service
102D Office Service
102E Academic Office
102F Academic Office
104 Seminar Room
105 General Classroom
106 General Classroom
107 Office Service
108 Janitor Room
109 Rest Room
110 Janitor Room
112 Teaching Laboratory
112A Teaching Laboratory Service
112B Teaching Laboratory Service
115 Teaching Laboratory
115A Teaching Laboratory Service
115B Teaching Laboratory Service
115C Teaching Laboratory Service
115D Teaching Laboratory Service
117 General Classroom
146 Conference Room
147 Research Laboratory
147A Academic Office
147B Research Laboratory Service
147C Research Laboratory Service
148 Graduate Assistant Office
148A Graduate Assistant Office
149 Research Laboratory
149A Research Laboratory Service
149B Graduate Assistant Office

Second Floor

200 Graduate Assistant Office
200A Research Laboratory Service
200B Academic Office
201 Research Laboratory
202 Research Laboratory
202A Research Laboratory
202B Research Laboratory Service
203 Rest Room
204 Research Laboratory Service
205 Research Laboratory Service
206 Academic Office
208 Janitor Room
209 General Classroom
210 Graduate Assistant Office
211 Reading Room
211A Academic Office
212 Research Laboratory Service
214 Research Laboratory
214A Research Laboratory Service
214B Research Laboratory Service
214C Research Laboratory
215 Research Laboratory
215A Research Laboratory Service
216 Research Laboratory Service
216A Research Laboratory Service
216B Research Laboratory Service
217 Research Laboratory
217A Academic Office
217B Teaching Laboratory Service
217N Graduate Assistant Office
218 Research Laboratory Service


WEST FRONT OF BUILDING
SOUTH SIDE OF BUILDING
EAST SIDE (REAR) OF BUILDING
Connection to Food Preservation and Sanitation Laboratory



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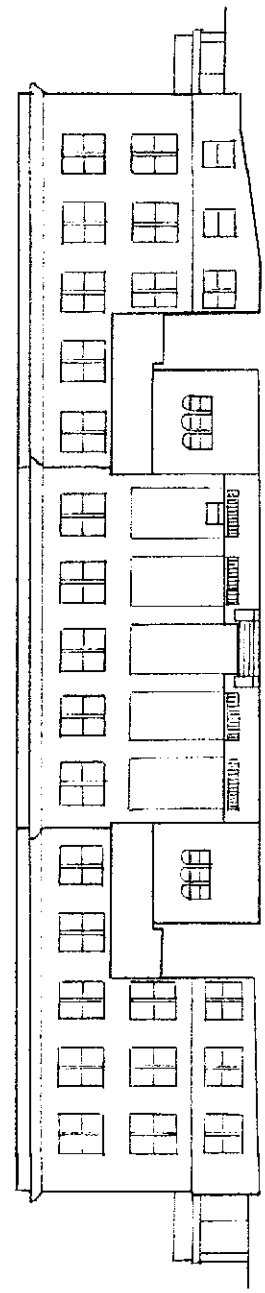
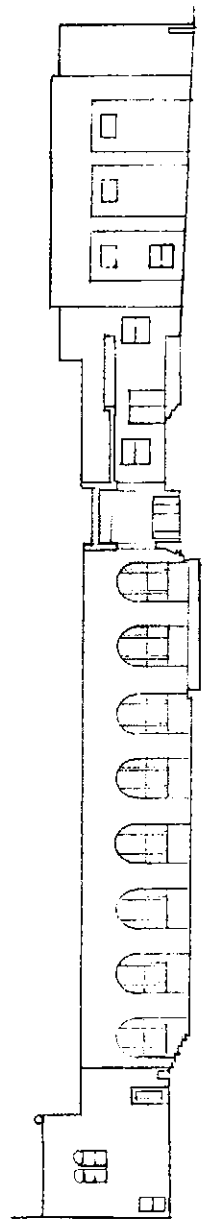
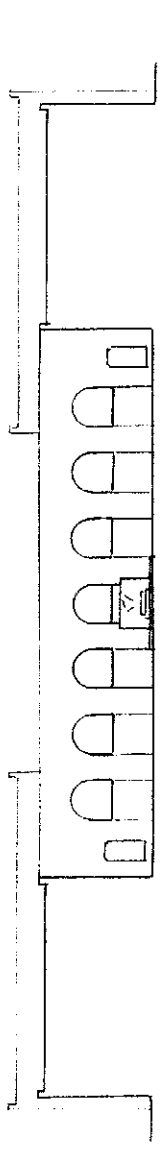


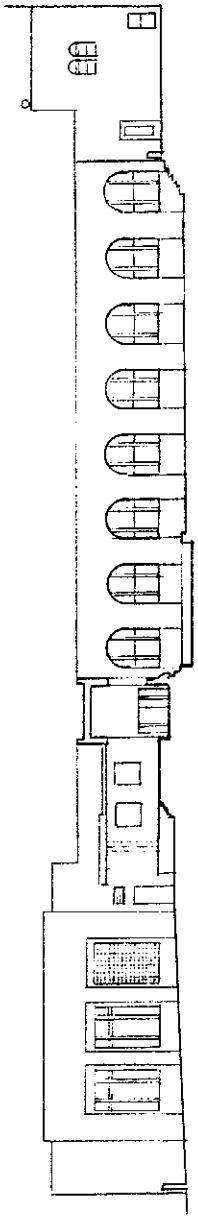
WEST SIDE OF COURTYARD AND EAST SIDE OF FRONT PORTION OF BUILDING



SOUTH SIDE OF COURTYARD AND OF RECEIVING COURT



EAST SIDE OF COURTYARD



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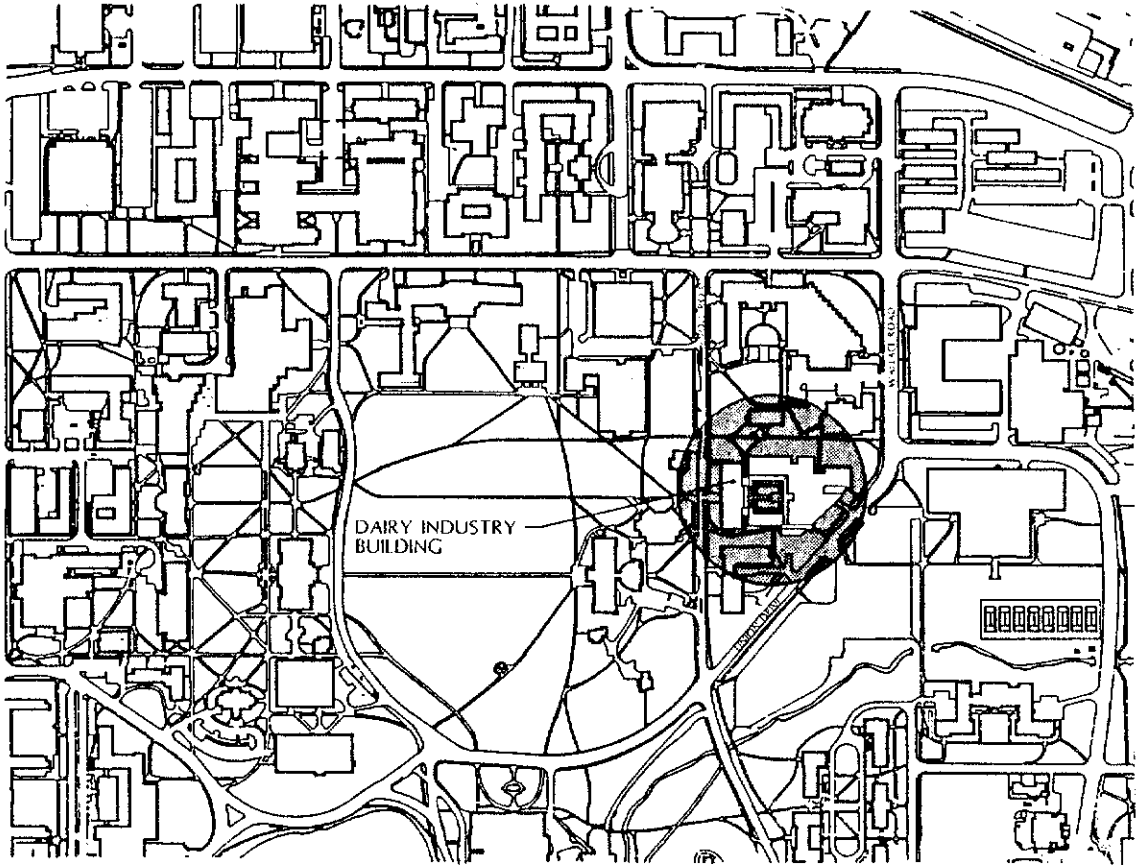
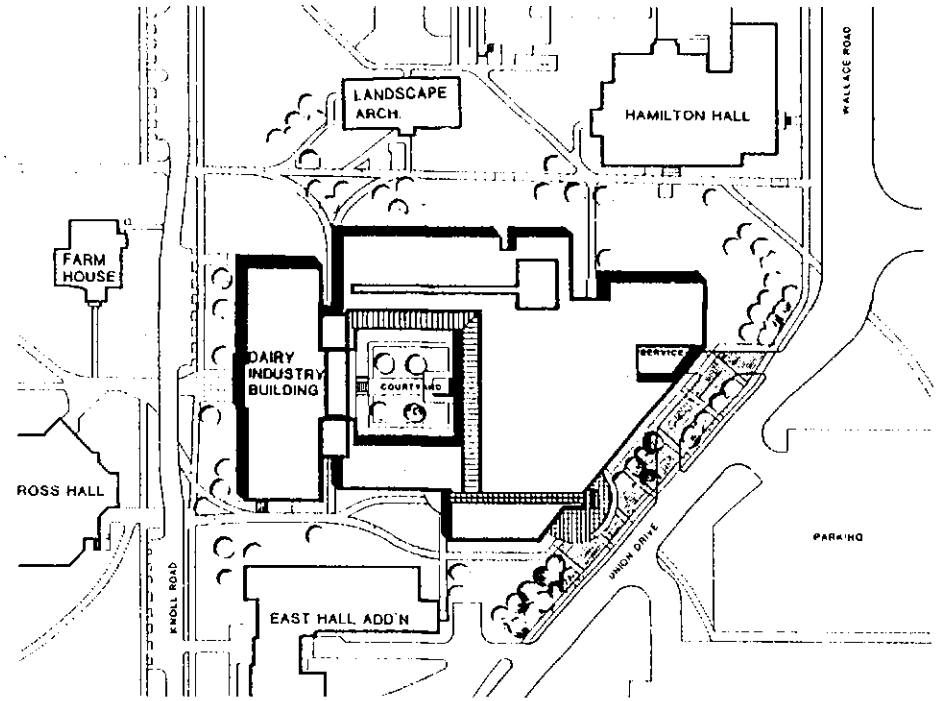


VICINITY PLAN

• UTILIZATION CENTER FOR AGRICULTURAL PRODUCTS •

ARCHITECT BDA BUSSARD/DIKIS ASSOC DES MOINES IOWA HISTORICAL CONSULTANT WESLEY SHANK AMES IOWA COST CONSULTANT CPMI DES MOINES IOWA MECH/ELEC ENGINEERS KIMMEL JENSEN WEGERER WRAY ROCK ISLAND ILLINOIS STRUCTURAL ENGINEERS STRUCTURAL CONSULTANTS DES MOINES IOWA



SITE PLAN

NORTH

DAIRY INDUSTRY BUILDING
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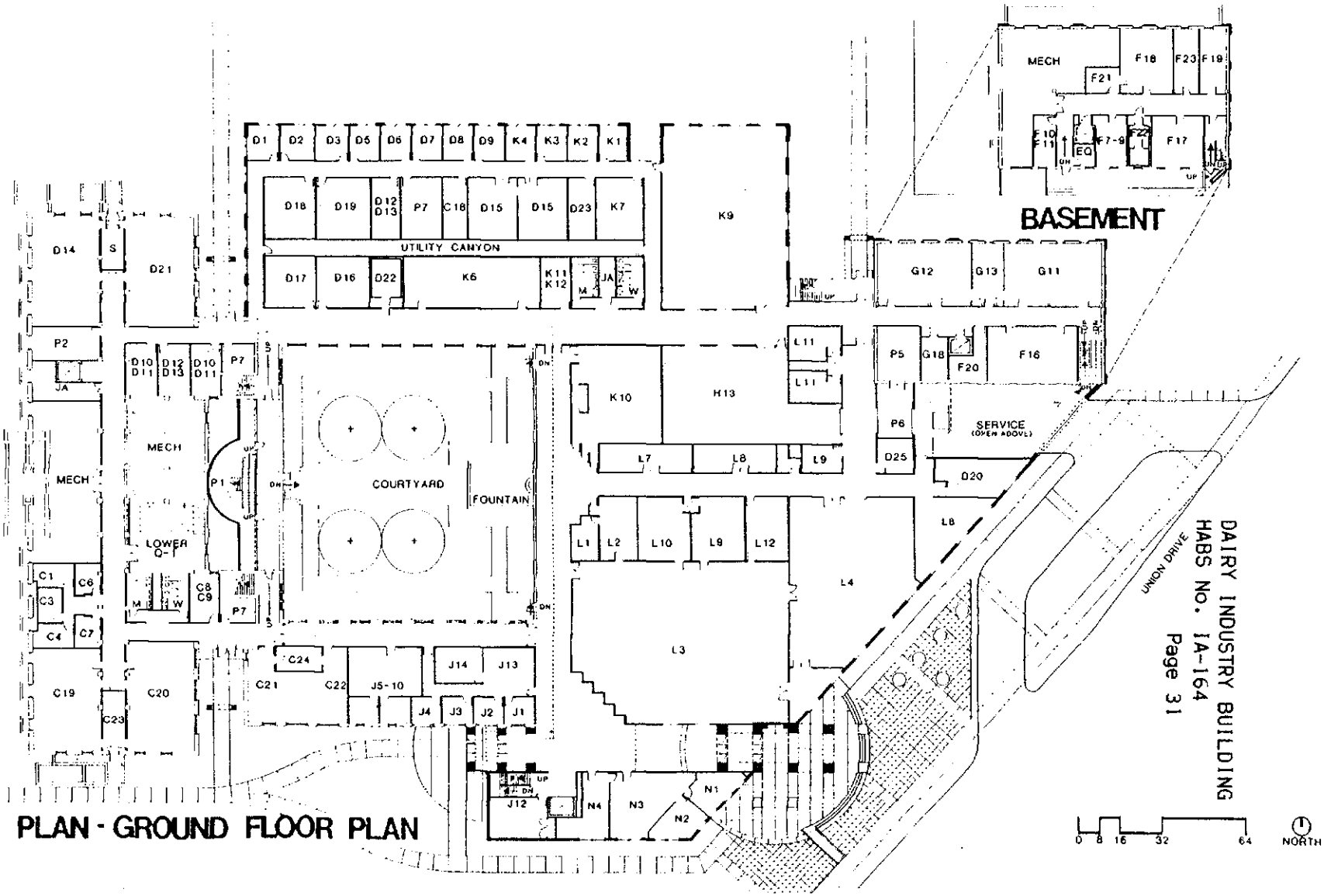
• UTILIZATION CENTER FOR AGRICULTURAL PRODUCTS •

ARCHITECT BDA BUSSARD/DIKIS ASSOC DES MOINES IOWA HISTORICAL CONSULTANT WESLEY SHANK AMES IOWA COST CONSULTANT CPMI DES MOINES IOWA MECH/ELEC ENGINEERS KIMMEL JENSEN WEGERER WRAY ROCK ISLAND ILLINOIS STRUCTURAL ENGINEERS STRUCTURAL CONSULTANTS DES MOINES IOWA



MASTER PLAN - GROUND FLOOR PLAN

DAIRY INDUSTRY BUILDING
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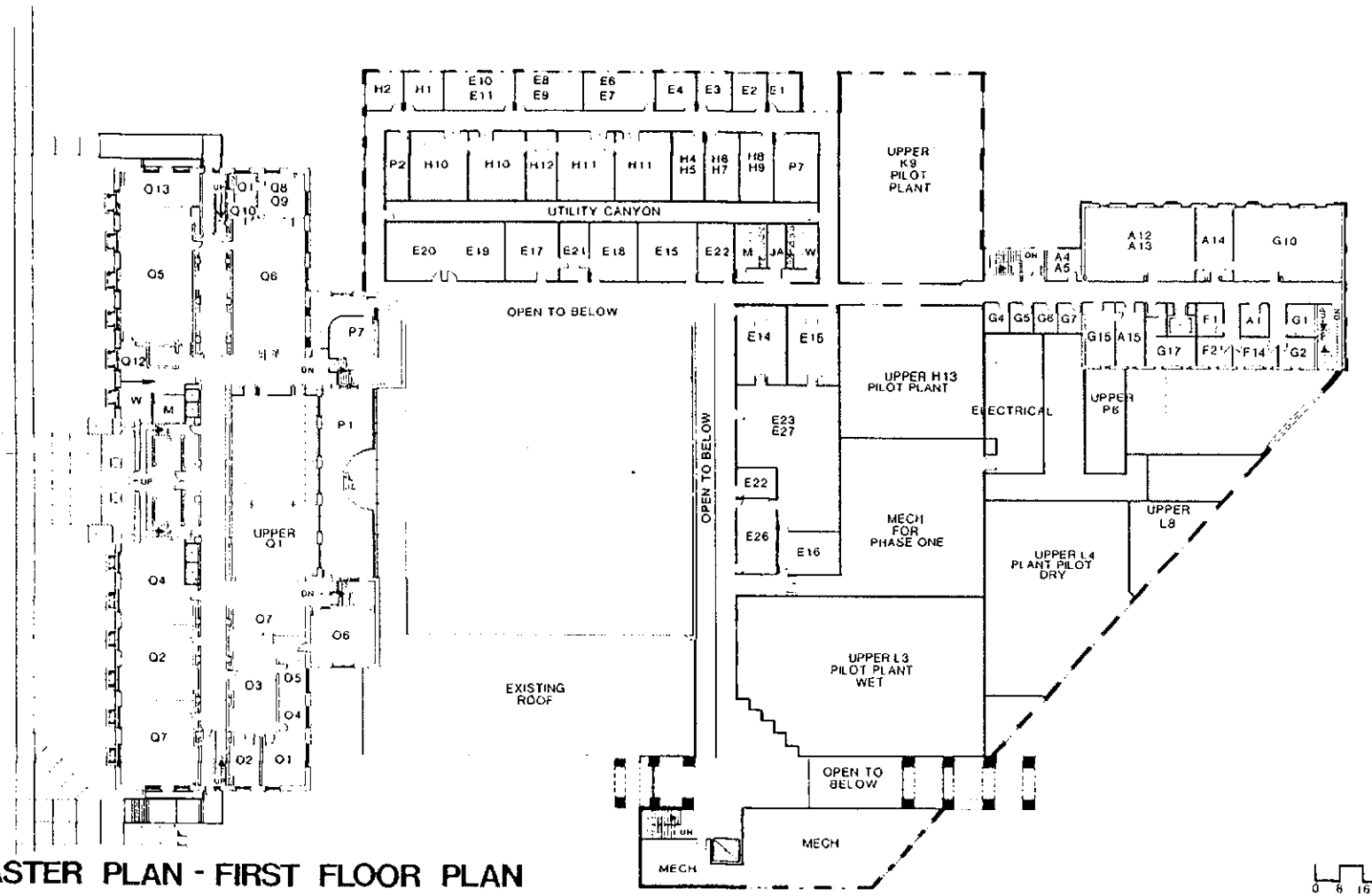
• UTILIZATION CENTER FOR AGRICULTURAL PRODUCTS •

ARCHITECT BDA BUSSARD/DIKIS ASSOC DES MOINES IOWA HISTORICAL CONSULTANT WESLEY SHANK AMES IOWA COST CONSULTANT CPMI DES MOINES IOWA MECH/ELEC ENGINEERS KIMMEL JENSEN WEGERER WRAY ROCK ISLAND ILLINOIS STRUCTURAL ENGINEERS STRUCTURAL CONSULTANTS DES MOINES IOWA



MASTER PLAN - FIRST FLOOR PLAN

DAIRY INDUSTRY BUILDING
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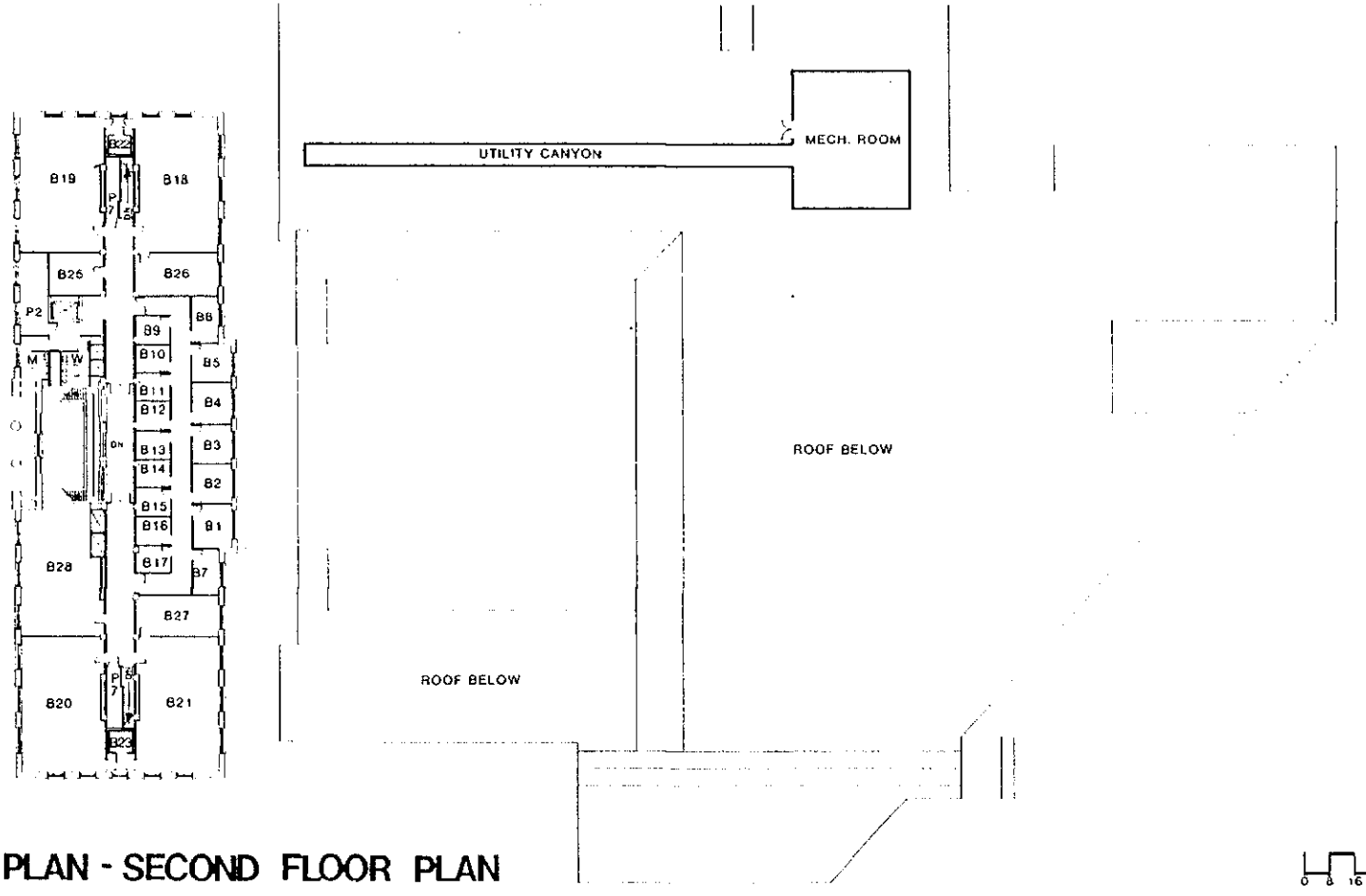
• UTILIZATION CENTER FOR AGRICULTURAL PRODUCTS •

ARCHITECT BDA BUSSARD/DIKIS ASSOC DES MOINES IOWA HISTORICAL CONSULTANT WESLEY SHANK AMES IOWA COST CONSULTANT CPMI DES MOINES IOWA MECH/ELEC ENGINEERS KIMMEL JENSEN WEGERER WRAY ROCK ISLAND ILLINOIS STRUCTURAL ENGINEERS STRUCTURAL CONSULTANTS DES MOINES IOWA



MASTER PLAN - SECOND FLOOR PLAN

DAIRY INDUSTRY BUILDING
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ROOM NAME INDEX

FOOD BIOTECHNOLOGY (A)

A1 FACULTY OFFICE
A2 DELETED
A3 DELETED
A4 GRADUATE OFFICE (3 PERSON)
A5 GRADUATE OFFICE (6 PERSON)
A6 DELETED
A7 DELETED
A8 DELETED
A9 DELETED
A10 DELETED
A11 DELETED
A12 SMALL LAB (STANDARD)
A13 SMALL LAB (CUSTOM)
A14 AUTOCLAVE ROOM
A15 SUPPORT

BASIC SCIENCES (B)

B1 FACULTY OFFICE
B2 FACULTY OFFICE
B3 FACULTY OFFICE
B4 FACULTY OFFICE
B5 FACULTY OFFICE
B6 DELETED
B7 DELETED
B8 GRADUATE OFFICE (3 PERSON)
B9 GRADUATE OFFICE (6 PERSON)
B10 GRADUATE OFFICE (6 PERSON)
B11 GRADUATE OFFICE (3 PERSON)
B12 GRADUATE OFFICE (1 PERSON)
B13 GRADUATE OFFICE (1 PERSON)
B14 GRADUATE OFFICE (3 PERSON)
B15 GRADUATE OFFICE (3 PERSON)
B16 GRADUATE OFFICE (2 PERSON)
B17 GRADUATE OFFICE (6 PERSON)
B18 LARGE LABORATORY (STANDARD)
B19 LARGE LABORATORY (STANDARD)
B20 LARGE LABORATORY (STANDARD)
B21 LARGE LABORATORY (STANDARD)
B22 COOLER
B23 COOLER
B24 DELETED
B25 CONFERENCE
B26 SUPPORT
B27 SUPPORT
B28 LARGE LABORATORY

FOOD TECHNOLOGY (C)

C1 FACULTY OFFICE
C2 FACULTY OFFICE
C3 FACULTY OFFICE
C4 DELETED
C5 DELETED
C6 GRADUATE OFFICE (3 PERSON)
C7 GRADUATE OFFICE (6 PERSON)
C8 GRADUATE OFFICE (6 PERSON)
C9 GRADUATE OFFICE (6 PERSON)
C10 GRADUATE OFFICE (6 PERSON)
C11 GRADUATE OFFICE (2 PERSON)
C12 GRADUATE OFFICE (3 PERSON)
C13 GRADUATE OFFICE (3 PERSON)
C14 DELETED
C15 DELETED
C16 DELETED
C17 DELETED
C18 CONFERENCE ROOM
C19 LARGE LABORATORY (STANDARD)
C20 LARGE LABORATORY (STANDARD)
C21 SMALL LABORATORY
C22 SMALL LABORATORY
C23 SUPPORT SPACE
C24 SUPPORT SPACE
C25 DELETED

FOOD ENGINEERING (D)

D1 FACULTY OFFICE
D2 FACULTY OFFICE
D3 FACULTY OFFICE
D4 DELETED
D5 GRADUATE OFFICE (2 PERSON)
D6 GRADUATE OFFICE (2 PERSON)
D7 GRADUATE OFFICE (2 PERSON)
D8 GRADUATE OFFICE (1 PERSON)
D9 GRADUATE OFFICE (2 PERSON)
D10 GRADUATE OFFICE (2 PERSON)
D11 GRADUATE OFFICE (1 PERSON)
D12 GRADUATE OFFICE (2 PERSON)
D13 GRADUATE OFFICE (2 PERSON)
D14 LARGE LABORATORY (CUSTOM)
D15 LARGE LABORATORY (CUSTOM)
D16 DRY GRINDING LAB
D17 INSTRUMENTATION LAB
D18 SMALL LABORATORY
D19 ANALYTICAL LABORATORY
D20 HAZARDOUS MATERIAL LAB
D21 FOOD PROCESSING LAB
D22 WORK IN COOLER
D23 SUPPORT SPACE
D24 DELETED
D25 SOLVENT STORAGE

FOOD SCIENCE/SENSORY (E)

E1 FACULTY OFFICE
E2 FACULTY OFFICE
E3 FACULTY OFFICE
E4 FACULTY OFFICE
E5 DELETED
E6 GRADUATE OFFICE (6 PERSON)
E7 GRADUATE OFFICE (3 PERSON)
E8 GRADUATE OFFICE (3 PERSON)
E9 GRADUATE OFFICE (2 PERSON)
E10 GRADUATE OFFICE (2 PERSON)
E11 GRADUATE OFFICE (2 PERSON)
E12 DELETED
E13 DELETED
E14 DELETED
E15 TRAINING ROOM
E16 DESCRIPTIVE ANALYSIS ROOM
E17 SMALL LABORATORY (STANDARD)
E18 SMALL LABORATORY (STANDARD)
E19 SMALL LABORATORY (STANDARD)
E20 SMALL LABORATORY (CUSTOM)
E21 SUPPORT SPACE
E22 RECEPTION/COAT ROOM
E23 TEST KITCHEN
E24 PANEL BOOTH ROOM
E25 PANEL BOOTH ROOM
E26 CONSUMER TESTING ROOM
E27 STORAGE

MICROBIOLOGY (F)

F1 FACULTY OFFICE
F2 FACULTY OFFICE
F3 DELETED
F4 DELETED
F5 DELETED
F6 DELETED
F7 GRADUATE OFFICE (3 PERSON)
F8 GRADUATE OFFICE (3 PERSON)
F9 GRADUATE OFFICE (3 PERSON)
F10 GRADUATE OFFICE (3 PERSON)
F11 GRADUATE OFFICE (3 PERSON)
F12 DELETED
F13 DELETED
F14 CONFERENCE ROOM
F15 LARGE LABORATORY (STANDARD)
F16 SMALL LABORATORY
F17 PATHOGENIC LAB SMALL (STANDARD)
F18 PILOT PLANT
F19 INCUBATOR ROOM
F21 SUPPORT SPACE
F22 WORK IN FREEZER
F23 AUTOCLAVE ROOM

FERMENTATION AND INDUSTRIAL CHEMICAL (G)

G1 FACULTY OFFICE
G2 FACULTY OFFICE
G3 DELETED
G4 GRADUATE OFFICE (2 PERSON)
G5 GRADUATE OFFICE (2 PERSON)
G6 GRADUATE OFFICE (2 PERSON)
G7 GRADUATE OFFICE (2 PERSON)
G8 GRADUATE OFFICE (2 PERSON)
G9 GRADUATE OFFICE (2 PERSON)
G10 LARGE LABORATORY (STANDARD)
G11 LARGE LABORATORY (STANDARD)
G12 FERMENTATION LAB/PILOT PLANT
G13 AUTOCLAVE ROOM
G14 DELETED
G15 SUPPORT SPACE
G16 DELETED
G17 DARK LAB
G18 SUPPORT SPACE

BIOMATERIALS (H)

H1 FACULTY OFFICE
H2 FACULTY OFFICE
H3 DELETED
H4 GRADUATE OFFICE (3 PERSON)
H5 GRADUATE OFFICE (3 PERSON)
H6 GRADUATE OFFICE (3 PERSON)
H7 GRADUATE OFFICE (3 PERSON)
H8 GRADUATE OFFICE (3 PERSON)
H9 GRADUATE OFFICE (3 PERSON)
H10 LARGE LABORATORY (STANDARD)
H11 LARGE LABORATORY (STANDARD)
H12 SUPPORT SPACE
H13 NON FOODS PILOT PLANT

MARKET DEVELOPMENT (J)

J1 FACULTY OFFICE (IN SUITE)
J2 FACULTY OFFICE (IN SUITE)
J3 FACULTY OFFICE (IN SUITE)
J4 VISITING FACULTY OFFICE
J5 GRADUATE OFFICE (3 PERSON)
J6 GRADUATE OFFICE (3 PERSON)
J7 GRADUATE OFFICE (3 PERSON)
J8 GRADUATE OFFICE (3 PERSON)
J9 GRADUATE OFFICE (3 PERSON)
J10 GRADUATE OFFICE (3 PERSON)
J11 DELETED
J12 CONFERENCE ROOM
J13 SECRETARY AND CENTRAL
J14 WORK ROOM

TECHNOLOGY TRANSFER (K)

K1 FACULTY OFFICE
K2 FACULTY OFFICE
K3 FACULTY OFFICE
K4 FACULTY OFFICE
K5 DELETED
K6 TEACHING LAB
K7 SMALL LABORATORY
K8 DELETED
K9 PILOT PLANT WET
K10 TECHNICAL TRANSFER THEATRE
K11 RECEPTIONIST
K12 COAT ROOM

PILOT PLANT (L)

L1 PLANT MANAGER
L2 OPERATIONS OFFICE
L3 WET PILOT PLANT
L4 DRY PILOT PLANT
L5 SUPPORT FACILITY
L6 STORAGE EQUIPMENT
L7 STORAGE PAPER
L8 STORAGE FOOD
L9 STORAGE COLD
L10 STORAGE FREEZER
L11 LOCKERS/SHOWERS
L12 SHOP
L13 AREA FOR EXECUTIVE SUITES

MICROSCOPY (M)

ALL SPACES DELETED

CENTER ADMINISTRATION (N)

N1 ADMINISTRATOR OFFICE
N2 ASSISTANT ADMINISTRATOR
N3 RECEPTION/SECRETARIAL
N4 COPY/WORK ROOM
N5 FILES

DEPARTMENTAL OFFICES (O)

O1 ADMINISTRATOR OFFICE
O2 STAFF OFFICE
O3 RECEPTION/SECRETARIAL
O4 COPY/WORK ROOM
O5 FILES
O6 LIBRARY
O7 MEDIA STORAGE

GENERAL SUPPORT (P)

P1 VENDING AREA
P2 GLASSWARE WASHING ROOM
P3 GLASSWARE WASHING ROOM
P4 GLASSWARE WASHING ROOM
P5 GENERAL STORAGE
P6 REGENTS
P7 STORAGE

CLASSROOMS (Q)

Q1 AUDITORIUM (117)
Q2 CLASSROOM (106)
Q3 CLASSROOM (104)
Q4 CLASSROOM (106)
Q5 TEACHING LAB II (E)
Q6 TEACHING LAB II (E)
Q7 CLASSROOM (108)
Q8 SUPPORT (115A)
Q9 SUPPORT (115B)
Q10 SUPPORT (115C)
Q11 SUPPORT (115D)
Q12 SUPPORT (112A)
Q13 SUPPORT (112B)

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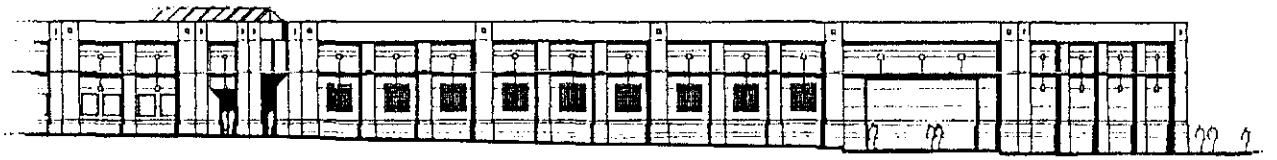
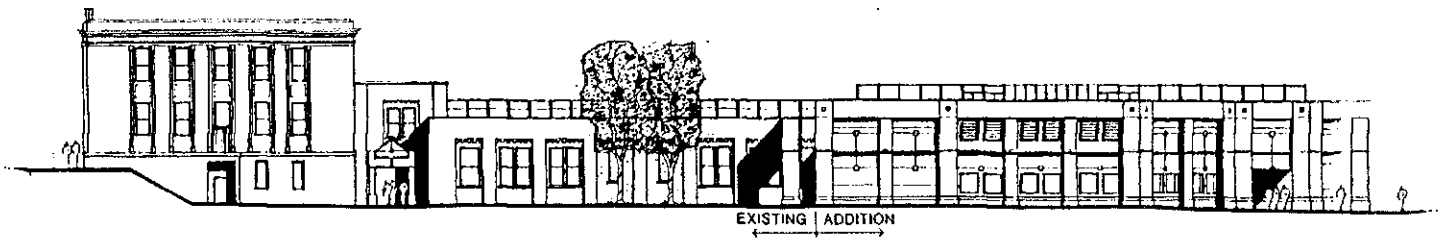
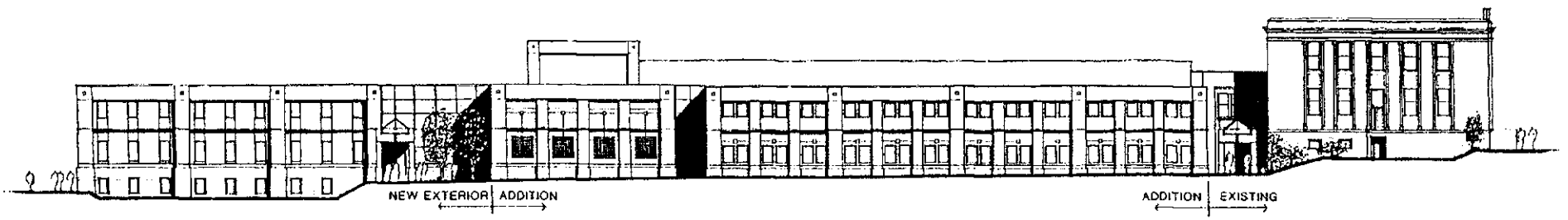


SOUTHEAST ELEVATION



SOUTH ELEVATION



NORTH ELEVATION

0 5 10 20 40

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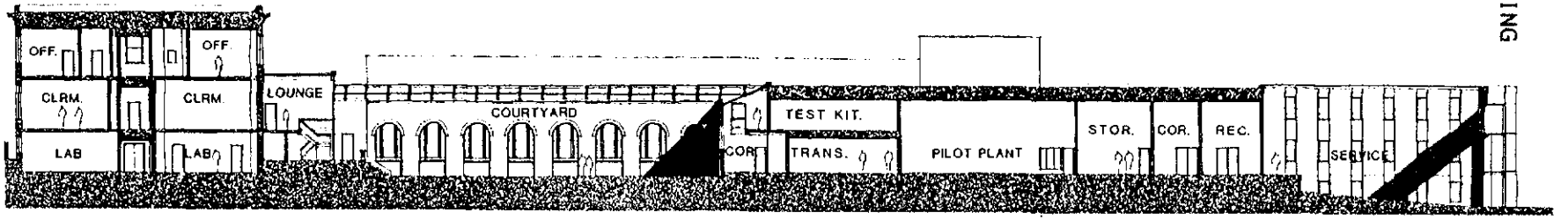
WEST ELEVATION

CROSS SECTION



LONGITUDINAL SECTION

0 5 10 20 40

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